Tranexamic acid...an old drug, new uses

**Background:**
- Discovered in the 1950’s in Japan
- A synthetic derivative of the amino acid lysine

- Inhibits binding of plasminogen to fibrin by attaching the lysine binding sites of kringles of the plasminogen molecule

**FDA approved uses:**
- Hemophiliacs undergoing dental procedures
  - For prevention or decreasing risk of bleeding (IV/PO)
- Treatment of heavy menstrual bleeding (PO)

**Trade names in USA:**
- Cyclokapron – IV tranexamic acid
- Lysteda – PO tranexamic acid

**Tranexamic acid in surgery:**
- Reduces need for blood transfusions by 38%
- Used in coronary artery bypass graft surgeries, knee replacement surgeries

**Tranexamic in trauma:**
- Reduces mortality in trauma patients when used early
- Most effective when administered < 1 from injury
- Improved mortality seen at 48 hours
- May have an anti – inflammatory effect
- Improves hypocoagulopathy
- No significant increases seen in thromboembolic events
- Low costs
  - At Henry Ford, 1000mg = $21
- Dose for bleeding trauma patients/patients with significant hemorrhage
  - Loading dose: 1g in 100mls of 0.9% normal saline
  - Maintenance dose: 1g administered over the next 8 hours